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ABSTRACT

This paper outlines some of the issues that emerged from guiding student teachers through the experience of conducting action research. Action research was used a a way of working toward a student teaching experience that would provide opportunities and structures to facilitate and enhance the students' development as reflective teachers. Several different approaches were used in introducing action research to student teachers. To clarify their thinking, it was emphasized that the study was a means of obtaining and applying practical results to specific classroom situations. Students were also given some insight into data-gathering and observation as ways to develop their reflective teaching practices. In a discussion on how the student teachers were helped to reflect within their action research, a description is given of the "cosmic egg," a teaching tool developed to aid critical reflection by emphasizing the interrelatedness of all dimensions of an educational issue. The final section of this report considers issues that emerged from the experience of student teacher practice of action research. The appendices include a list of projects undertaken by the students, a diagram of the "cosmic egg," examples of action research reports written by student teachers, and a list of resources on using action research. (JD)

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Action Research and Reflective Student Teaching at UW - Madison: Issues and Examples

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A Paper Presented at the Annual Meeting of the Association of Teacher Educators

San Diego, February, 1988

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For the past five years, some student teachers at the University of Wisconsin - Madison have completed action research projects during their final semester of field experiences. Students in the program are in classrooms four-and-one-half days per week, gradually assuming teaching responsibilities, and attend a weekly university-based seminar with their supervisor. One of the requirements of that seminar is, in several cases, an action research project. Action research has been well documented as an approach to teacher in-service and staff development (Elliott, 1980), yet its use with student teachers has only recently re-emerged as a focus for interest and debate (Di Chiro et al., 1987). The rationale used for advocating action research with teachers has varied over time and place (Corey, 1953; Oliver, 1982; Hovda and Kyle, 1984; Kemmis, 1983; Grundy and Kemmis, 1983; Grundy, 1987; Elliott, 1976-77; Brown, 1981; Brennan, 1981), yet it may have much relevance to current (U.S.) American teacher education.

The lack of a rationale for and documentation of action research projects with pre-service teachers, though, inhibits judgments as to its usefulness. This paper will, in part, address that need. It will also outline some of the issues that emerge in doing action research with students, and will situate these within a larger context of issues in action research. Before turning to specific examples of how we work with our students, we first outline why we use action research. Then in the following section of the paper, we chart our experiences and reflections about the two main approaches we have used in introducing action research to student teachers. The third section covers how we help students to reflect as part of their action research projects. A particular teaching tool and an example of a student's project form the basis of this section. The final section considers issues which have emerged from our experiences - issues which

would benefit from much wider debate within the action research and teacher education communities.

Why Use Action Research?

We use action research as a way of working toward a student teaching experience that provides opportunities and structures which facilitate and enhance the students' development as "reflective" teachers (Grant and Zeichner, 1984). We do so out of a strong conviction that action research, with all its pitfalls, constraints, and under-examined theories, provides a lever to "unpack" the complexities of thinking about, and to improve the quality of student teacher practices during, their field experiences. Although we have yet to conduct longitudinal studies of our students beyond one semester (Noffke and Zeichner, 1987), we also hope that action research will assist in developing long-term habits and frameworks for teacher activism and reflective and critical pedagogy.

What are the alternatives for furthering such habits of reflection if we do not use action research? We could use (as has been done within the UW program) journals, observations, ethnographic studies, or curriculum analysis projects along with readings and discussion during the seminar and the supervision process itself (Zeichner and Liston, 1987). Although the potential for critical reflection exists in these activities, none of them captures for us and for our students' work the political, social, and ethical dimensions of reflective teaching practice. Through action research we seek to expand the areas teachers consider in their everyday decisions, while also emphasizing the need for responsible action.

Action research differs from other forms of educational research in its methodology, but it is also a different way to conceive of what it means to "know" and to "act" - a different way to think about practice and change. It is democratic both in its emphasis on the production of knowledge by people from various sectors in education and in the topics and processes of the research

itself. At its best, it can break through the barriers of individualism and isolation, all too often prevalent in US educational arenas. As such, it can provide an important experience and framework for the understanding and improvement of curriculum and teaching practices. In our case, it is an important focus for conceptualizing the role of teacher education in the development of "reflective" teaching practices. We are aware that there are many different approaches to action research within the USA and around the world. Since we ourselves are still exploring what action research is and could be, we want to avoid any tendency towards definitional purity. We do emphasize researching one's own practice, systematically, over time.

How Do We Introduce Action Research To Student Teachers?

For some of the students, the idea of action research is novel. It is difficult to convince student teachers that they should be producers of knowledge if most of their university (and school) experiences directly contradict this. As student teachers, their daily classroom experiences can serve as constant reminders of their lack of knowledge and skill - of what they do not know and cannot do. Action research is obviously a project that will require at least some time and commitment, and has criteria that are not so easily quantified and attained as a multiple-choice question or a short answer exam. It is even more foreign than a long paper on a topic meaningful to them, an experience with which some are still not familiar and comfortable, even at the end of their undergraduate studies. In part, these difficulties have to do with the nature of their university education. Others are a result of their desire to be spending all of their efforts on "teaching", not seeing such university-based learning as a part of "practice". Some difficulties are a response to their understanding of the nature and processes of research itself.

We have tried several approaches to the introduction of action research with our students. In our **first efforts**, we began by asking students what they

thought research was. Their responses, elicited as a "word association", provided us with many questions about the program itself, and the students' experiences with "research" in general. Their responses included:

-sitting in the library
-boring
-science
-objective
-bookwork
-white lab coats
-papers

Nothing was suggested that gave any sense that students saw themselves as producers of knowledge or that research might have something to say to them. Theory was another word to "unpack" in class as a means of articulating and identifying the tremendous hold of traditional science on the understanding of our students. The contrast between their "traditional" notions of "scientific research" and action research were used as a means to explain the differing principles of action research. The students' initial reactions to this view of science, theory, and research formed an area to be explored, making more problematic the meanings of the terms and their connection to the lives of teachers and children, as well as to the larger social and political context. We emphasized the importance of linking theory and practice, the production of knowledge as the basis of teacher development, and the possibility of building a focus on one aspect of one's concerns as a teacher through integrating action research over time into the routines and daily experiences of the task of teaching.

Action research could be presented as a way of increasing "professionalism". However, to us the term implies a view of knowledge which is undemocratic and therefore antithetical to action research. Emphasizing the use of knowledge to differentiate "insiders" and "outsiders", is to subscribe to a particular version of "expertise". We tend to avoid the term "professional", focusing instead on the

growth in understanding of practice, the improvement of practice, and the linking of their own situation with those of others (Grundy and Kemmis, 1983).

In a sense, this activity sets action research as opposing standard views, which, in a sense, it does. Yet this oppositional stance also presents a dilemma. Although, on the one hand, action research does entail a differing definition of what it means to do research, it also holds a contrasting view of the theory-practice relationship. By formulating the view of action research as oppositional, we might also be setting the stage for a continued rejection of "university theory" in general, resulting in an anti-intellectual position. Rather than leading to a reformulation of theory and practice, our approach could merely continue their separation.

At the very least, the oppositional stance may sit uneasily with students whose main concern lies in understanding and fitting in with the dominant practices present in the schools in which they were placed. The understanding of research that predominates in other sectors of society is also that of the mainstream student view. It is therefore not surprising that many of our students' projects were only minimally separated from the assumptions of other research forms, even though this was certainly not deliberate on their part. Oppositional stances, built on the so-called common sense reactions of the students, cannot really be sustained without the political understanding and commitment that accompany such a position. Nevertheless, feedback from students suggests that they found the projects interesting and useful, a change from other university work. Cooperating teachers also expressed an interest in and support for this form of university project, into which they themselves could enter in a number of roles. One cooperating teacher, for example, continued the action research project after her student teacher had graduated. Both students and cooperating teachers liked the emphasis on investigating the "practical" daily classroom life.

Although student and cooperating teacher comments do seem to have indicated both positive reactions and significant and favorable results in terms of our goals, some difficulties remain that required changes in both our approach and the structuring of the assignment. As reported earlier (Noffke and Zeichner, 1987), surface level foci, lack of more than one "cycle", lack of time, and difficulty integrating their collected data into their written reports have been problems for the student teachers. While the time aspect may have contributed to difficulties in completing more than one "cycle" of action research, the other areas needed to be addressed in ways that did not add to, but rather created overlaps which would lessen the overall workload during student teaching. It was hoped that such structuring of assignments would allow more time to continue into more "cycles".

In reaction to these concerns and those relating to the introduction of action research as an oppositional activity, we decided to decrease the emphasis on the "foreignness" of action research by stressing that they knew quite a lot about action research already. The **second way** we introduced action research was to build some understanding of data-gathering and observation into their first few weeks in their classrooms, and then to develop a framework of action research around that. In this way, action research wasn't a university term appropriating what they already knew, but rather a way being more systematic and rigorous in their own reflection and teaching - a way of gaining access to ways others have thought about and practiced in relation to the topics, while developing their own, both individually and collectively, reflective teaching practices. The rubric of "reflective teaching" was emphasized more than "action research" as the framework. As well, we arranged for the students to meet with other groups of student teachers to talk through their initial plans for their projects, before writing up their proposals. Some plans were also made for the students to present their final plans to this wider group, but the students preferred to have more

time time together as a small group, with more time for each person to present and discuss her/his project. The smaller seminar groups allowed for this.

Our emphasis in these first two approaches to the introduction of action research asked students to choose one aspect of their practice that interested them and which they wanted to improve and better understand. It did not have to be a "problem area". This stipulation served both to distinguish action research and reflection from "problem-solving" and to minimize the "deficit model" that seems, at times, to pervade undergraduate teacher education.

Initial reports to the whole class were to be presented. These were to cover what the issue was, why the student found it important and necessary to investigate, its wider educational significance, and how they would start their research. This final section usually outlined what data they would first collect and their first action step.

The topics the students chose depended on a number of characteristics, including their own preferences and styles. A full listing of the projects' topics can be found in Appendix A. They covered a range of foci from work with individual students and use of time by students, to issues of gender differentiation in teaching. Some students clearly chose their projects from issues that arose in supervisory conferences, which focused on questions about the students' own observed practice; others chose theirs through interaction with issues in reading and discussion.

Mostly, though, the students' projects arose from specific concerns about their teaching practice during the early part of the semester. While some do not fit traditional understandings of action research in that they are not centrally concerned with investigating their own practice, all need to be considered as affecting teaching practice and understanding in some form or another. Purist attempts at definition are not helpful in discussing these projects. What is noticeable is that students who chose not to do research on their own practice had projects which nonetheless gave them a useful way to investigate students,

and to increase their understanding of their own classrooms. For instance, following a single student became less of a case study, profiling a student's background and needs, and more of a record of teaching plans and reflections.

As a result of our own action research on action research - a process that was made explicit from the beginning and one which enabled us to give students feedback and institute discussion during the seminar - we are still debating how to improve our use of action research in course design for the Elementary program. The latest approach now conceives of the action research as an ongoing investigation of a broad issue: "what it is to be a teacher", as distinct from investigating over time a single, specific aspect of their practice such as discipline or individualizing instruction. Clearly, part of the new investigation will include focusing on specific elements and emphases in the semester. However, this is intended to be done as a way of focusing more attention on their own learning and practical development as a student teacher, enabling more direct discussion of the constraints and possibilities of that particular job.

We hope that this latest approach will enable more collaborative and self-conscious reflection and planning to emerge for the whole seminar group to emerge and also allow for the possibility of bringing the cooperating teachers more into the conversation as partners. Before, the cooperating teacher could help to gather data or even to take part in the project, though this was by no means the norm. Now a conversation about what it is to become a teacher may help to make for a more equal partnership of reflection and critical development.

Last semester, we tried to make the student teachers' own learning the focus of the seminar, with mixed success. When this occurred, it was still an individual rather than a shared or group process, so the structural issues of shared socialization were not apparent because of the different foci of the students' projects. These could be interpreted by them merely as "individual differences". While this may still occur, the tendency may be lessened, and it certainly will be easier to raise issues relating to the social and political

implications of student teaching and the experiences of doing action research, than when the topics varied so much.

How Do We Help Students to Reflect Within Their Action Research?

Too often, teacher practice and reflection has been characterized as a hierarchical separation of the technical, the practical, and the critical (Noffke, 1986b; Kemmis, 1983; Grundy, 1987). In our view, every issue has its technical (how to), practical (what to), and critical (why) dimensions. Reflection is not merely a "critical" act, but also a practical and a technical one. Understanding an issue means examining all three. On a number of occasions, the focusing of attention by student teachers on the practical and the technical has been described as "natural". For example, the work on teacher thinking sometimes presents a progression through various stages differentiating neophytes from experienced teachers (Fuller, 1969). Such distinctions may be dangerous for the purposes of analyzing reflection because they separate out what we see as centrally connected ways of thinking and doing, creating an artificial hierarchy between the "technical" and the "reflective". There is no sequence of practical and technical know-how that precedes the critical. In our view, different value positions imply different practical, technical, and critical activities.

Once we discuss topics with student teachers, either in seminar or in supervision, we see that they do enter into all three dimensions - the critical, the practical, and the technical - even though on first sight it may appear that their concern is exclusively with the technical. During student teaching (and here it is very difficult to avoid the language and concepts of stage theory ourselves!), the technical and practical aspects of their work are those which offer them the most challenge and are also points of entry to the understanding of the way the critical operates for that topic or issue. Teaching is not an abstract act; nor are the students in their classrooms able to be put "on hold" while they "think" about what to do. This is where we find action research to be

particularly suited to the teaching act. A teacher/student teacher can be investigating and improving her/his action at one and the same time. The different "moments" in action research (McTaggart, et al., 1982) are not merely different temporally but also allow for a tight dialectic between reflecting and acting so that they are not different acts, but related. Many student teachers seem to feel that reflection is "just thinking" (Hursh, 1988), a sort of linear process that happens automatically after "doing". As teachers of student teachers, one of our most difficult tasks is to help them to realize the dialectic of action and reflection in their daily experiences of reflective practice.

The "cosmic egg" (see diagram, Appendix B) is a teaching tool developed to aid critical reflection by emphasizing the interrelatedness of all dimensions of an educational issue. It is hard to explain a metaphor without reducing it or changing its purpose too much. The egg is a whole, an organic metaphor which does not deny its parts but which is also greater than the sum of its parts. The diagram tries to capture some of the complexity of any situation in terms of its connection to other situations, power relations, and ideologies, all of which have a history and occur at a particular place and point in time.

At the center is the student teacher, her/his classroom and school. This is then surrounded, in outward moving, concentric circles by other institutions in which the student is immediately involved, growing more distant-seeming, to the USA 1988. The power relations, habits, and structures which inform and construct these institutions and situations in which the student finds her/himself are made visible. All of these - self, situation, institution, and power relations - need to be seen as operating at a specific point in time. Each has a history, often intertwined with other histories.

In explaining this diagram to the students, we say that the lines between each area are permeable, that is, there is a two-way flow of influence and construction. All parts operate simultaneously, but only some are in focus at any

one time. The trick is to use the "egg" to uncover our own habits, assumptions, and interpretations in order to be able to reflect more deeply, and therewith alter not only how we think, but what we see, what we see as relevant, and what we will do as a result. As an example, in seminar a student raises any issue. We try to fill in the dimensions of the issue by looking at all the layers of the "egg". The layer which seems to have least relevance often provokes the most discussion and illumination of the limits of our current understanding. It also gives an opportunity to surface differences of opinion and background and to "play" with issues: "What if gender really was operating here as an important hidden message of our discipline methods? How would you find out? What should/could you do to change it? How might your view of discipline be constrained by being thought of and discussed in 1988 USA? What else have people thought and done about this issue? Why does that come up now and not earlier? Why is this an automatic habit of interpretation?

Such questions are particularly helpful when students seem to be at a standstill in their projects, for whatever reason. At times, especially when the original formulation of the question seems to have exhausted the possibilities for change, the use of this tool sparks further interest and challenge. It also appears to address the need for broadening the conception of the current issue - to see its interconnectedness with other areas of teaching and educational life.

This example of the "cosmic egg" is only one of many ways in which we attempt to promote reflective action with our students. Working through the action research process itself, both individually and collectively, is another. Beginning in the initial seminar session on action research and building through reading, discussion, presentations, and writing, students hear of the thoughts and efforts of others, and get a chance to explain and examine their own.

Getting started is for many students, as well as their supervisors, a difficult process. It is important, for several reasons, that the introduction of action research to the seminar group does not take place until the third or

fourth week of the semester. First, although the students have chosen their placements after several observation visits, they need time to learn more about and become comfortable in their classrooms, with their cooperating teachers, and with their supervisor. Second, they need time to sort through the mass of new information and experiences they encounter - to find those issues that are significant to them. Third, waiting a few weeks allows time for a trusting relationship to be built. Finally, we allow time for the supervisor to complete a "letter of expectation" conference (to negotiate a time-line of activities for the semester), to conduct at least one cycle of supervision, and to read the students' thoughts in their journals. Through these activities, not only trust, but an understanding of the students' goals and teaching is developed. This knowledge and trust play an essential role in the introductory seminar session on action research.

After the general discussion on action research described above, a specific example of a previous students' action research project is "walked through". A typical description follows the course of the student's project from the early formulation of a "general idea", through "reconnaissance", to the plans for, data collection, and reflections on a series of action steps. The following is adapted from an audiotape of such a seminar session:

> One student was interested in what seemed to be a small problem. He was very concerned that he used the word "OK" over and over in his teaching. He decided to tape record one class period and to have a student check another class in order to see first what the situation was.
>
> He started with a "general idea" about his verbal behavior in his classroom. Then he entered a "reconnaissance" phase - looking over the situation.
>
> His tape revealed 116 "OK's" in one class period; the student counted 132. Another student added that she'd counted over 200 a week earlier. Although he still was not convinced that the tallies were accurate, he formulated an "action plan" aimed at reducing the usage of that word. He analyzed the tape further, noting that he used "OK" for questions, feedback, transitions, etc. and decided that he needed to focus on one aspect at a time. His first step involved developing more questions, instead of lecturing. He found that when he started asked questions of the students, instead of putting all of the conversation on himself, he stopped using the word entirely.

His plans also took into consideration suggestions from his cooperating teachers and his supervisor that he try to involve more students in discussions and attend to patterns of perhaps unconsciously "calling on" more boys than girls, especially in math class.

His plans then focused on broadening his repertoire of responses, making clearer transitions, and attending more consciously to student responses. He also developed more and more varied questions. Eventually this led him to re-evaluate, not only the specific techniques he used, but their rationale and some of his general approach to teaching. His ongoing question changed, but also his understanding of the issue. He began with a narrow focus on his own language usage and moved to a broader understanding of the importance of student participation in class. While his original teaching style was almost exclusively teacher-centered lecture, his later lessons included large group discussion, small group problem solving in math, and experimentation in science.

A follow-up discussion asked students to identify the issues embedded in the project. Through this, students could see action research as a way to deal with all three dimensions - the technical, the practical, and the critical - as they related to an actual classroom situation. They could also see how the focus of a project and its consequent "cycles" changed and broadened. It also is appropriate at this point to discuss how the data collection proceeded, including the use of "triangulation", collecting various forms of data (e.g. tape, supervisor notes, student feedback, etc.) to focus in on the topic. A copy of the student's report is included as Appendix C.

The final section of the class involves asking the students to generate ideas for their own projects. Often students volunteer issues discussed at supervisory conferences. Others offer topics of interest from previous coursework or practice. It is useful to have them choose one or two and speculate as to how one might begin - what information would be useful, how it could be gathered, and to what steps it might lead.

Over the next weeks students read more material about action research, including examples of others' project reports. See Appendix D for another student's report and Appendix E for suggested resources for students and others. The students also continue to discuss their progress informally at seminar and at supervisory conferences. Many times they request specific data related to their

topic as part of a supervisory visit. It is important that there be time for students to share their thoughts about their projects. First, it gives them a chance to work through the process with others. It also allows for connections to be made to readings discussed in seminar, related to curriculum, discipline/management, evaluation, grouping, racism, sexism, etc. It also allows for practice at articulating what they are doing and why, and for encouragement and suggestions from others as to how else they might proceed. While action research is not the central focus of the seminar, it often provides the opportunity to relate issues discussed to actual events in their classrooms.

Issues in Student Teacher Practice of Action Research

Some of the issues facing and emerging from our practice (experience and theorizing) of action research in the context of an undergraduate certification course are similar to those experienced in other fields and other places. Many of these issues are perennial for teacher education; they have been debated for many years. Other issues are peculiar to the undergraduate teacher education experience at the University of Wisconsin-Madison. The specific histories of this institution and of the students involved, the UW Elementary Education program and ourselves as teachers educators alter and illuminate our understanding of what action research is, has been and might be. Action research has for us been a useful and important way to organize our own practice and our thinking about it. Yet all issues focus attention on and raise questions about what we think action research is as it is being done - not just in a definitional way, but also for its emancipatory potential.

Researching action research also can tell us about teacher education, some of its challenges, practices and problems for both students and instructor. Some of the difficulties involved in doing action research with student teachers have already been discussed in terms of how we help people learn about it. This

section considers issues that are embedded in our efforts to make both action research and "critical reflection" part of the experiences of teacher education.

How Much Action Research Can We Expect From Student Teachers?

Everyone who undertakes action research, for whatever reason, seems to complain and worry about the amount of time they will have available and the kind of changes in their practice and institutional practices that might be expected from it. The time element for student teachers is highly circumscribed and very little, if any, is under their direct control. First, they are in someone else's room. Even at the beginning of the school year, the teacher has set up routines, the curriculum of the school has certain elements of an inexorability which the student only gradually begins to understand in their institutional, teaching, and personal dimensions. As well, students often work, have families, and take other classes in addition to the full (or in a few cases, half time) student teaching experience.

Yet it is important to recognize that our seminar occurs within the context of a particular, state-accredited teacher certification program. This means that it is not easy for an individual supervisor to negotiate changes in the program. The handbook for the program, which is the public document of expectations and agreements, sets out a number of activities which are required of all students. These include keeping a journal, writing lesson plans, making three observations of other classrooms, being observed by the university supervisor about six times, three three-way conferences between the teacher, student teacher and supervisor, preparing a unit of study, doing two weeks of lead teaching, with major responsibility for all teaching, preparation, and assessment, and a weekly seminar. It is in this seminar that we include the action research project.

For many students, the very existence of a two credit, conventionally graded seminar is a distraction from the "real" job of the semester - their student teaching. This places an added burden onto an already crowded semester.

Through our focus on action research, we attempt to explore the tension between the program's potential overemphasis on practice as the primary means of learning to teach and become a teacher, and the need to examine critically the status of teaching practices and to generate alternatives. Yet all those other requirements have to be met as well. The demands are often perceived as conflicting in nature, although for some students, the seminar works well and the tensions are perceived as fruitful for their learning. For most students, it seems that the writing up is the most time-consuming area, even when they have used their journals and have plenty of data and ongoing reflective comments there. The time for university required projects and reading is limited at the best of times; the more that the students perceive the project to be helpful to their practice, the more they are likely to set aside the time for it to be done. However, this also tends to emphasize the practical dimensions of action research which may be at the expense of the critical. Yet the ongoing nature of the project tends to build its own momentum in the daily practice and routine of the classroom and seminar.

We have taken up action research partly as a way to explore its democratic impulse in our teaching and its potential for altering the conception of teacher education and the role of knowledge production. In a situation which is often bureaucratically defined and administratively arranged (i.e. an institution), there are many constraints working against achieving these goals, even if supervisors and student teachers themselves agree on their importance.

We can say, and so would other student teacher supervisors at the UW - Madison, that action research projects are a useful way to hold the course together over time. But whether or not the student teaching experience is redefined through a project which links school experience and seminar is highly debatable. For some students, we can clearly say that they have made significant shifts in their understanding of the role of teacher, but whether this shift will last into their teaching is another matter entirely. The institutional experience

they have with us in seminar and supervisory conferences is an important one, but may not be enough to counteract their other experiences.

The seminar is graded and the project itself is part of that assessment relationship of teacher and student. Even where grades are negotiated, the compulsory aspect of the project does tend to work against the democratic impulse for free and voluntary association which we see as desirable in action research. Each student also receives separate grades. This supports the continuation of the students' understanding of schooling as individual and competitive, and affects their approach to projects, papers, and sharing in discussion. Students, even those who have been concerned with altering the relationships at the university and in their own teaching, have not often noted this aspect in their feedback to us. Yet none of us can afford to ignore the institutionalized patterns of action which must be reconciled with our own democratic intentions.

As part of our on-going debate at the UW - Madison, we continually return to the question - What are the minimum requirements for reflection? The formulation of the question alters, but the general area of our conception of reflection is important. Questions we are now asking include: How much is it intrinsic to action research to move between the three dimensions of technical, practical, and critical? Exploring the multi-dimensionality of an issue seems essential in some ways, but how much of that is inherent to action research and how much is it a function that can occur with other forms of critical reflection which may not be so integrally tied to practice?

There seems to be little doubt that changes in understanding accompany the process of doing action research as we have engaged in it, although it is hard to quantify and describe this. We need to explore in much greater detail what it means to reflect on the practical and the technical, not just the critical, and whether there is a difference, as we suggest, in the kinds reflection that occur within particular value positions.

Continuing Dilemmas

How much can we call what a student does action research, especially if it is only one cycle or a case study? Given the constraints of the situation, does it matter? How much does one have to do before it "counts" as action research? These are questions which perhaps worry us more than the students. It may not be crucial that all projects match a particular definition of action research. However, it is important to understand what it is about our approach that leads, in some cases, to a concern for wider issues. For now, we have been content to call our work action research and to investigate its epistemological, normative, and practical aspects as we proceed with our teaching. At one level, though, the issue of definition is important because it helps us to clarify whether action research in fact matches our value commitments. The history of action research has often been a stormy one, especially in this country (Noffke, 1986a; Smulyan, 1983), and its fate has often depended on its legitimacy according to criteria other than those to which we would subscribe.

Our future plans continue to focus on using action research with our student teachers. In particular, we are interested in ways of building collaborative activity into their experience, even though they will be in different schools and in different classrooms - themselves separated. We want to integrate better the university and school aspects of our work - to avoid seeing the university as theoretical and abstract and the school as the site for practical experience. Perhaps the greater involvement of the cooperating teacher in supervisor-student conversations will provide an important link in the process of reflection. Currently, teaching students about critical reflection is occurring much earlier in the program, with observation and data gathering leading to critical interpretation, as well as discussion of action research, built into the introductory course. Hopefully, the load on final semester student teaching will not be so great: the student teachers will already have some familiarity with the practices and the theories.

Our representations are continually changing. If any of our audience use our activities in any form, we would be pleased to hear from you about what modifications and approaches seem to help your teaching and research. We have found that engaging in action research, both on our own practices and with student teachers, continues to be useful in our efforts to enhance our understanding of teaching practices, to improve those practices, and to improve the situation in which those practices take place.

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Appendix A

MB - Spring, 1987

1. Helping a student new to the country and the school settle in and learn
2. The teacher's job: How to keep all students learning and on task
3 & 4. Cooperative groups: How they are introduced and how they help children learn (Two students with their cooperating teachers)
5. Seating arrangement: Discipline and discussion
6. What's a good teacher? What do students want in a teacher?
7. Maximizing learning time
8. Effective methods for discipline

MB - Fall, 1987

1. What is happening to a student with epilepsy and perhaps other problems in a grade one class and how to teach her
2. How students in a three year grade work with one another
3. SRC: What is happening and how it is used in the school
4. Sharing time: How students learn to have class discussions
5. Using music and other relaxation techniques as part of discipline and classroom management
6. How cooperative groups help in teaching a student with low self esteem and grades
7. Individualizing instruction: Following up students with problems
8. Homework and how to help late workers to fit in
9. One student having problems in class: How to teach her, relate to parent, link to work for whole group

SN - Fall, 1985	Grade
1. Classroom Discussions	4
2. Aspects to Classroom Management	3
3. Reading Comprehension	2
4. Behavior Management	1
5. Making Social Studies More Student-Oriented	5

SN - Spring, 1986

1. Cooperative and Competitive Games and Small Group Work	5
2. Student vs. Teacher Selected Small Groups	6
3. Alternatives to Saying "OK"	5
4. Discipline Techniques	1
5. Teaching Reading	2
6. Understanding Discipline	6

SN - Fall, 1986

1. Gender Issues in the Classroom	1-2
2. Learning Rates and Ability Groups	K
3. Classroom Management	K
4. Group Cooperation	3
5. Increasing Child Participation	4
6. Teacher Verbal Behavior and Child Participation	7-8
7. Workbooks vs. Concrete Learning	K
8. Introducing Young Children to Invented Spelling	K-1
9. Reading Comprehension	4
10. Case Study of a Child	JP

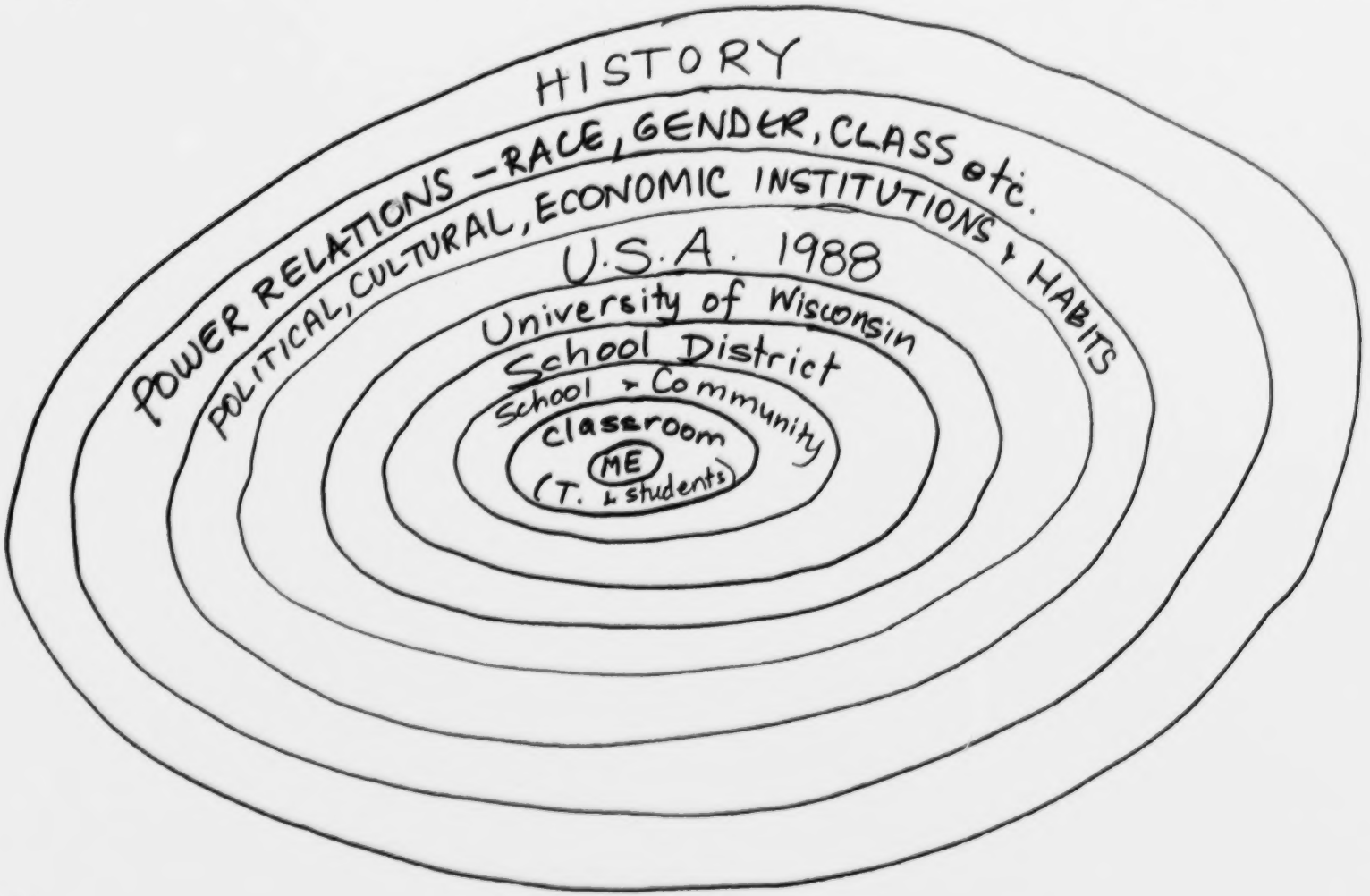
SN - Spring, 1987

1. Group Time	K-1
2. Cooperative and Competitive Behavior	K
3. Overcoming Nervousness in Teaching	1-2
4. Questions and Class Discussion	6
5. Classroom Management and Learning	4
6. Children's Behavior	2
7. Making Math Fun	6
8. Teacher-Oriented Causes of Student Behavior Problems	1
9. Class Discussions	3-5
10. "Connected Teaching" (From a term used in Belenky, et al., 1986)	3-5

SN - Fall, 1987

1. Classroom Discussions	1
2. Group Times	K
3. Competition in the Classroom	6
4. Students' Need for Attention and Attention-Getting Mechanisms	K
5. Reading Comprehension	6

The "Cosmic Egg": A device to help in revealing and going beyond our taken-for-granted assumptions & interpretations.



Appendix C

"Teacher Verbal Behavior and Child Participation"
Grades 7-8 Fall, 1986

General Idea

I have always been well organized. I have the materials I need, know the order I am going to present information, and generally have a well thought out lesson. Still, there are things I cannot put into a lesson plan, regardless of how thorough I am.

For example, since I do not know exactly how students will respond, nor which students will respond, I cannot plan what I will say in response to their responses.

Therefore, I have noticed some unwanted trends:

-I answer "ok" everytime I ask students to comment, or everytime I want to make a transition.

-I tend to call on the same people too much (i.e. boys more than girls in Math. "Quick" students more than "slow" students in general).

I have to change these habits. First of all, my "ok's" have become so prevalent that it has become distracting for me and my students. We cringe together. Also, if I say "ok" so much, it loses its significance. Everything gets "ok", so when I really want to say "ok!!", it has little value.

There are other reasons for wanting to change my selection of "call-ees", too. I may unwillingly be confirming the misconception that boys should do Math; girls English. If I rarely call on girls in Math, I may be indirectly telling them that it is not for them. Same way with "bright" vs. "dull" students. Slower students often volunteer less, but even when they do wish to speak, I tend to snub them. I must work on encouraging them and praising their courage. Otherwise there may soon be no slow volunteers to snub.

Reconnaissance

I tape-recorded a literature lesson and counted (gulp) 116 "ok's".

I had a girl in the literature class mark down every time I said "ok". She counted 132! (Another girl overhead me discussing this with M___ and informed me that she had counted over 200 "ok's" a week earlier! I still cannot believe my problem is this severe).

A number of teachers commented on the fact that I need to try to involve all students in discussion -- not strictly eager beagers. (Is it eager beagers or eager beagles? What the heck is a beager?)

My supervisor kept track of the times I called on girls versus the times I called on boys during a Math lesson. There are approximately the same number of boys and girls in the class. I called on boys nearly twice as often as girls (24 to 14).

Later, my supervisor also recorded how many times I called on each student in a social studies class. (This was after all my other reconnaissances I just listed).

These observations gave me an idea of how I was conducting my lessons. I was now ready to make a game plan.

Plan

This is how I think I can change my style. Gradually try to wean myself away from the "ok" crutch. Try to cut back to 100, then 75, 50... It would be ridiculous to have my goal be, "Never say ok again". First of all, it probably is impossible. Second of all, there is no harm in saying "ok" sometimes.

Concentrating on not saying "OK" will not be the best route to take. Instead, I will focus on alternative responses. The following are possible responses:

-Nice job of reading!
-Good thinking!
-Do you think that was what the author was thinking?
-I agree. Do the rest of you?

I can begin by writing comments like these on my lessons. Gradually I should begin to make them naturally. These comments will mean more to students because they are more specific. Students will understand what part(s) of their responses are "ok", then.

The other situation where I use my crutch is when I am making a transition between topics (i.e. "Ok, the next topic..."). I can do one of two things. Simply have a silence and then begin the new topic, or say "the next topic...".

A solution to boy/girl, bright/slow questions is to mentally concentrate on gaining greater parity. This may take time. It is easier to call on students that you assume know the answer. It is easier, but not necessarily better.

When students answer questions orally it is much easier to assess their understanding. If I ask if there are any questions and there are not, one of two things might be true: There are no questions, or those with questions are afraid to ask. The longer I go without calling on less eager volunteers, the harder it will be for them to ever respond. They need to feel comfortable right from the start about sharing their ideas. If they are mistaken, then I will know. And so will they. Humans seem to learn more from mistakes, so once students realize they are mistaken, the truth may really sink in solid.

Act

(This portion of my paper is present time, looking back.)

I was pleased at how rapidly I seemed to be remedying my problem. I saw a drastic reduction in overall "ok's". M___ only nailed me for 19 two weeks after catching 132. I became very avare of saying it, and I soon felt comfortable giving more specific praise. Also, saying, "The next topic is..." was helpful in more ways than one. I cut down on "ok's", and students seemed to have an easier time realizing what topic we were on (i.e. less questions).

I concentrated on pulling all students into discussions. When I asked helpers to keep track of who I called on I found that I generally called on everyone at least once in each lesson. As weeks passed, I saw a number of less confident students doing more volunteering. I tied my specific, positive feedback into my lessons, and I feel I really encouraged my classes.

If students demonstrate an understanding of material by answering questions in class, they should be able to answer the same questions on tests. It is harder to tell if my action research has had an effect on test scores. There are a lot of variables that are tough to isolate. If a student improves from one test to another, to what should it be attributed? Difficulty of subject? Mood of student? Improvement due to increased class participation?

By beginning with notes on lessons plans and awareness of who I called on, I seem to have made progress on my project. I think I am easier to understand, and I also think students feel more comfortable participating in my classes.

Observe/Reflect

I have pointed out that I accomplished my goal of cutting down on "ok's", and calling on students in a more even manner. Reasons I suggested for my accomplishment included physical prompters (notes on lessons) and more attention to the problem. There may be another answer, too, however. During my project I thought about abandoning such a teacher-centered teaching style. I got students more involved. Instead of my lecturing primarily, I began asking students many more questions. I attempted to pull information from them rather than feeding it to them.

I think the move to a more student-centered strategy may be as important of an accomplishment as cutting down on that naughty word. The only problem is, that was not the goal of this paper!

Appendix D

"Group Times"
Kindergarten Fall, 1987

My action research project focused on group times, especially sharing. I chose group times because it's an area that I feel least comfortable with right now and an area I want to develop my skills more, so I will become more at ease.

Sharing is important to me because it's one of the times in a class when the children are the focus of discussion. One child is allowed to bring a piece of themselves, a favorite toy, book, experience, or knowledge, and share it with the other children and teacher. That child has a moment just to talk about him. Sharing is also an opportunity for the child who's sharing to develop language skills by describing what they brought, where he got it or what he knows about a topic of interest. The other children are learning to ask questions, develop listening skills and the ability to take turns.

The kindergarten class I was student teaching in had 23 children. Each day four or five children had the opportunity to share something with the class. Sharing was 9:00 and was a transitional group just before breakfast. Being just before breakfast made it a challenge to lead a group sometimes. The other teachers were interested in my project also because they were experiencing many of the problems of control I was. Group time was something we all wanted to improve. They contributed a lot to the development of the project.

First I said to myself, what are some of the ways I can get their attention at the beginning to set the tone for sharing and also what are some activities I can do aside from sharing. With Sue and _____'s, my cooperating teacher, help, I began trying different techniques. I tried songs which worked well to bring them all together and other kinds of music. I play the recorder, so I brought that in a number of times. Puppets and books were of great interest and many times caught the children's attention right away.

So, I found ways to get their attention, then the next step was maintaining attention, which meant many times regaining the attention of the group. I began by trying more management techniques to regain and focus the group back on the activity.

When Sue observed sharing, I discovered I was using many negative statements during group. I was also focusing too much on individuals who were causing a disturbance and thus losing any control over the rest of the children.

I observed what other teachers did during both sharing and large group when the unit is discussed. I noticed what kinds of statements the other teachers used when leading a group. Some examples are, I am ready now; show me you are, Show me you're listening, and I called on (child's name). Also taking time to remind children in a firm, but nice way the rules during group and sometimes waiting until everyone was quiet before continuing. Occasionally a child would be asked to move to a different spot if she was having trouble.

I picked up on these techniques and began trying to be more positive.

The groups were beginning to be more focused. Another thing I found that could help was arranging the children in a semi-circle and being able to ask before group began a few children to move if necessary. I began to use more phrases such as, when you're quiet we can begin again, counting, and sometimes

ignoring a child if it could be done. _____ (Cooperating teacher) observed groups many times and had helpful suggestions for me.

I continued to do other activities at least for part of sharing time, and it was agreed if only one or two children shared at 9:00 it was o.k.

I was feeling a little better about group. I was slowly using more positive statements and having slightly more successful focused groups. I still found however I was sometimes focusing too much on individuals and then getting off track.

Sue suggested trying more non-verbal cues. She suggested body position was important because it gave signals to the children. Standing up until everyone was quiet, especially at the beginning, let the children know they needed to settle down. I also began to sit on the rug with the children instead of the chair, so I'd be down closer to them. Eye contact was another technique Sue suggested. Instead of verbally always reminding a child of misbehavior, I began by walking over to or touching the child instead. This gave the child the message you need to be listening now without my having to say anything.

I also began to change my questioning techniques. If I was explaining an activity for example, I'd call on someone after the explanation to see how much she remembered. I would also try to make it clear who I was asking. "I'm asking...I should only hear..." I also a few times would let the children answer short yes/no questions as a group. Short answer questions worked as a way to bring the group back together.

As for activities, I continued trying a variety of things. I especially began activities the children could participate in also -- storytelling or reading, songs, and some games were fun and the children were more cooperative. My attitude of being enthusiastic and saying this will be fun also helped. I was using fewer negative statements and becoming more positive in continuing the group. I would invite them to join me in the activity sometimes by saying I need your help or I have something special to do with you. I was making my goals clearer to the children and it helped.

I found using activities that children could participate in and making my goals clear led me to ask myself well what do the children like to do? It took me a while, but I developed a simple questionnaire to have the children fill out. I thought of things we did at group and wrote them down along with picture cues to help the children figure out the phrase. Most children filled them out and I found most children liked the activities they were able to participate in That is what I had thought. Talking in a group was a popular activity the children liked. Also reading or telling a story, either themselves or listening was another favorite. But by far the most favorite one everyone who did the questionnaire liked, was playing games.

The questionnaire helped me focus on curriculum planning alot more and then of course my student teaching ended. I was just beginning to really think about how to present an activity so it would seem of interest to most of the children.

Toward the end, I also began loosening my control a little, especially when it came to solving problems. I gave more responsibility to the children to solve conflicts, so I didn't have to intervene as much. This helped a great deal to stop getting off track by focusing on individuals too much and using as many negative statements. It wasn't my problem in the situation. I know that the children had many skills to solve problems, so I let them.

Now, what did I learn? I learned a lot. Now I have more self-confidence leading a large group of children than I did before. I also can now use many more positive management techniques, verbal and nonverbal.

I was just beginning to touch the area of curriculum planning and my student teaching ended. This is an area I can develop more with time.

Appendix E

Resources

Background

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